Who designed Oceanic Dynamics?

Oceanic Dynamics was conceived, created and launched by UK Electronic Solutions (UKES). UKES is part of the NSSLGlobal Group, which offers a global service....

Established in 2001, UK Electronic Solutions have steadily grown and is now a recognised engineering company known for its quality service and expert knowledge. As part of the NSSLGlobal group, UK Electronic Solutions are equipped to meet the immediate needs of any client worldwide. All the engineers are trained and experienced in service, repair and installation of navigation equipment, radar, gyrocompass, echo sounder, autopilot, ECDSS, VDR and communication systems, public address, Inmarsat, satellite communications, VHF, UHF and more.

With all the engineering expertise backed up by a dedicated administration team and technical support 24/7, UKES is your ideal partner.

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What is Oceanic Dynamics?

Oceanic Dynamics is a complete performance monitoring system designed to collect information and report findings to enable owners and operators to improve safety and efficiency, save on resources and provide clients with completely transparent reports.

What can Oceanic Dynamics offer?

Oceanic Dynamics offers users an all-encompassing solution to remotely monitor offshore vessel safety, performance and workload.

MRU – Motion Reference Unit
A highly accurate motion sensor captures vessel roll, pitch, yaw and surge, allowing positional evaluation, and 3-dimensional acceleration allowing impact and vibration evaluation.

GPS – Positional Data
Connected to the vessel’s on-board GPS NMEA distribution system (or standalone supplied if required), the Dynamic system records position, course over ground (COG) and speed over ground (SOG).

CanBus Modules – Can1 & Can2
Can and Can2 collect engine data (assuming two main engines although more may be added). This data is stored alongside the GPS and MRU data in order to give the most comprehensive and usable events monitoring. Even as a stand-alone feature, this data can be used to map trends in engine performance, predict engine failures and fuel economy and indidually used to monitor oil pressure and coolant temperatures / pressure over time for preventative maintenance purposes.

The MRU is a compact unit measuring only 130mm long. Power and data are transmitted using optical signal and all built-in circuits will not fail. The MRU is manufactured to the highest quality standards, featuring shock up to 2000g and working between -40 and 85 °C. Well sustained shock up to 2000g, working between -40 and 85 °C and usable events monitoring. Even as a stand-alone feature, this data can be used to map trends in engine performance, predict engine failures and fuel economy and individually used to monitor oil pressure and coolant temperatures / pressure over time for preventative maintenance purposes.

HD CCTV – Bullet Camera
Oceanic Dynamics uses a HD CCTV bullet camera to capture footage from the deck of the vessel at all times. Using the video footage to help clarify events on board at given time. The recording and storage of CCTV data can be used for many different applications:

• Master and crew training
• Passenger safety checks and site regulations adherence
• Incident reporting and recording
• Environment conditions
• Performance and operations development
• Vessel security

Recording includes but not limited to:

• 1x Cat5e cable for camera.
• 1x Bullet camera.
• 2x 3G/WiFi antennae.
• All serial sensor cables.
• 1x fixing plate for the MRU sensor.
• 2x 3G/WiFi antennae.
• 1 x Aluminium tie down plate for the main collection unit.
• 1x fixing plate.
• 1x Cat5e cable for camera.

Communications
Recording of data and video is all self-contained on board. Dynamic Systems is WiFi and 3G equipped and has the ability to use any on-board VSAT network if available. Scheduled access and utilisation of a least cost routing system prevents excessive data costs.

Hardware & Specification

Hardware
Oceanic Dynamics collection unit
Equipped with a robust ruggedised aluminium case on the collection unit fitted with camera attachment. All the collection unit is hardened for on-transmit. All necessary equipment is completed for transmission. If the operation sees data being transferred from the Oceanic Dynamics collection unit to the remote office (assuming two main engines although more may be added), the data can be used to provide further insight into the events on the vessel.

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GEO GRAPHIC

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CanBus Modules – Can1 & Can2
Can1 and Can2 collect engine data (assuming two main engines although more may be added). This data is stored alongside the GPS and MRU data in order to give the most comprehensive and usable events monitoring. Even in a stand-alone feature, this data can be used to map trends in engine performance, track engine wear and fuel efficiency and individually used to monitor oil pressure and coolant temperature, engine fuel economy and individually used to monitor oil pressure and coolant temperature.

HD CCTV – Bullet Camera
Oceanic Dynamics uses a HD-CCTV bullet camera to capture footage from the deck of the vessel at all times. Using the video footage to help identify events on board at given times. The recording and storage of CCTV data can be used for many different applications:
- Master and crew training
- Passenger safety checks and site requirements adherence
- Incident reporting and recording
- Environment conditions
- Performance and operations development
- Vessel security

Communications
Recording of data and video is all self-contained on board, Oceanic Dynamics is wireless and IP equipped and has the ability to use any on-board VSAT network if available. Scheduled access and utilization of a least cost routing system prevents excessive data costs.

Hardware & Specification

Oceanic Dynamics collection unit
Attached within a robust toughened ABS carry case the easy to install Oceanic Dynamics system collects data from several sources on-board, and provides the ship operator a clear understanding of the vessel performance. The reporting system can be tailored to the context, complexity and the frequency required by the operator.

The information can be distributed via VSAT, GSM and Wi-Fi which means data can be dispatched in real time for immediate analysis and action.

HD CCTV – bullet camera
Utilizing HD-CCTV wireless bullet cameras (Bullet or Mini), the Oceanic Dynamics system can be configured to send high-definition images via WiFi or 3G, providing live images of vessels, port security and remote access to the vessel’s main collection unit.

Canbus Modules
Utilizing NMEA (NMEA data collection device or N-Port), the CanBus Modules plug directly into the existing main engine harnesses. Powered by the CanBus network, data is transmitted to the Oceanic Dynamics collection unit via a standard serial connection.

Recording includes but not limited to:
- Engine speed
- Engine instantaneous fuel economy
- Engine fuel rate & total hours of operation
- Key switch battery potential (battery voltage)
- Engine coolant temperature / pressure
- Engine intake manifold #1 pressure (turbo boost) & temperature
- Engine percent load at current speed

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UK Electronic Solutions welcomes the opportunity to show you a live demo at the office. Alternatively, we could arrange a demonstration on your vessel for a first hand experience of the product.

Please contact a member of the team to find out more about Oceanic Dynamics.

NSSLGlobal is an award-winning independent service provider of satellite communications and IT support, committed to delivering high-quality voice and data services to customers anywhere in the world, regardless of location or terrain. Find out more at www.nsslglobal.com

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Complete Vessel Performance and Condition Monitoring System